

Appendix C: Draft Wetland Statement of Findings for the Cascades Diversion Dam Removal Project

This Wetland Statement of Findings is included in this document for public review to meet the obligations of Executive Order 11990 (Protection of Wetlands) and NPS Procedural Manual 77-1: Wetland Protection.

Purpose of this Statement of Findings

The purpose of this Wetland Statement of Findings is to review the Cascades Diversion Dam Removal Project in sufficient detail to:

- Avoid, to the extent possible, the short-and long-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative
- Describe the effects on wetland values associated with the proposed action
- Provide a thorough description and evaluation of mitigation measures developed to achieve compliance with Executive Order 11990 (Protection of Wetlands) and NPS Procedural Manual 77-1: Wetland Protection
- Ensure “no net loss” of wetland functions or values

Affected Wetlands

Wetland Extent

Wetlands¹ and deepwater habitats within the project area include the riverine habitat of the Merced River and the narrow border of riparian palustrine forest on the river-right and river-left banks. A total of approximately four acres of riverine and palustrine forest habitat occur within the project area.

Wetland Characteristics

Specific wetland classes identified within the project area are limited to riverine (rivers, creeks, and streams) and palustrine (shallow ponds, marshes, swamps, and sloughs). Using the Cowardin classification, specific wetland and deepwater classes within the project area include:

- *Riverine upper perennial* – main channel of the Merced River
- *Palustrine forest* – riparian forest habitat along the Merced River subject to various flooding regimes
- *Palustrine scrub shrub* – riparian scrub (e.g., willow) habitat along the Merced River subject to various flooding regimes

¹ Consistent with NPS Procedural Manual 77-1: Wetland Protection, wetlands herein are described using the Cowardin classification system.

The size, connectivity, and integrity of wetlands in the project area, particularly palustrine forest and riverine habitat, have been directly compromised by the dam and El Portal Road, which constrict the floodplain of the Merced River in the immediate area of the dam and alter hydrologic flows. The majority of wetland acreage in the project area is classified as riverine upper perennial and includes the open and flowing water of the Merced River, as well as the permanently flooded channel with little in-stream vegetation. Within the impoundment, the Merced River is approximately twice as wide as the natural channel upstream and downstream. In this section, the river is shallower and warmer, without the variety of riffles and deep pools needed to sustain aquatic life that is typical of a free-flowing river. Palustrine forest wetlands dominated by black cottonwood, white alder, and willows are restricted to a narrow border along both shores. On the river-right shore, riparian vegetation is constricted between the river and the roadway. Palustrine scrub shrub wetlands are present sporadically within this narrow border. Willows dominate these wetlands. On the river-left, this zone is constricted between the widened channel in the impoundment and naturally steep topography. Riverside vegetation overhanging the main channel is absent in many locations and contributes only minimal nutrients, organic matter, or shade to the riverine system. Reduction in the riparian band has increased bank erosion, resulting in a further loss of stabilized soils capable of supporting riparian species.

The floodplain upstream of the impoundment is slightly wider and characterized by varied topography; hummocks and depressions create diverse habitats, which in turn yield greater plant species diversity. Adjacent to the water, a mixture of small-fruited bulrush, sedge, beaked sedge, and a variety of rush species share the wettest sites. Sandbar willow, red willow, and arroyo willow are all present in the near-bank area of the floodplain. Low pockets are densely populated with recently germinated willow and cottonwood seedlings, probably resulting from the January 1997 flood. Bare soils are being colonized by horsetail, dogbane, and goldenrod. A variety of grass species, including hairgrass, reed grass, and brome, occur throughout the floodplain. Inflated sedge is concentrated between 1 and 5 feet above the water level. White alder is sparse and corresponds roughly with the bankfull mark.

The floodplain within the impoundment is almost entirely located on the river-left side of the Merced River. The river-right side of the river has a narrow, steep riparian area constricted by El Portal Road, with only a narrow band suitable for supporting wetland plant species. The floodplain on the river-left bank is restricted due to the impoundment and shading from steep, north-facing cliffs. The dominant willow species is red willow, with sandbar willow and arroyo willow intermixed. Black cottonwood and white alder are minor components. Herbaceous species include small-fruited bulrush, various species of sedge and rush, horsetail, dogbane, and goldenrod. Approximately 30% of the floodplain within the impoundment area upstream from the dam is bare soil, likely a result of deposition from the flood of January 1997.

The Merced River gorge downstream of the impoundment is steep, with a narrow floodplain band of riparian vegetation along the river course. Riparian species in this area are generally characterized by isolated pockets of willow, white alder, and oaks.

Existing Structures in Wetlands

Cascades Diversion Dam is located within the bed and banks of the Merced River. The overflow portion of the dam spans the riverine channel of the Merced River. The river-right and river-left abutments and the intake structure are located within the river channel and palustrine forest zone.

Environmental Consequences of the Proposed Action on Wetlands

Analysis

Dam removal would have short-term, adverse, removal-related effects to approximately four acres of wetland and aquatic habitat. Effects would be related to heavy equipment and dam removal activities and could include soil compaction, dust, vegetation removal, root damage, erosion, and introduction and spread of non-native species. The addition of silt, the resuspension of sediment, or the introduction of pollutants (e.g., fuels, lubricants) related to dam removal operations could degrade the quality of native wetland and aquatic habitats in the immediate vicinity of the dam. The application of mitigation measures described below (e.g., best management practices) would reduce the potential adverse impacts to wetland and aquatic habitats to a negligible intensity. Refer to the Cascades Diversion Dam Removal Project Environmental Assessment, Chapter II, Alternatives, for mitigation measures incorporated into the proposed action.

In the long term, removal of Cascades Diversion Dam would restore the free-flowing condition of the Merced River and return this portion of the river to a more natural state, thereby enhancing the hydrological and biological integrity of associated wetlands. A variety of riffles and deep pools would form in the area of the existing impoundment upstream of the dam. This would create more suitable habitat for fish and wildlife found in free-flowing rivers. There would be a small net gain in the area of the floodplain, with a corresponding increase in the area of wetland vegetation (palustrine forest and scrub shrub). Special-status species potentially found in the project area include Wawona riffle beetle, nine species of bats, harlequin duck, and California spotted owl. There would be a local, long-term, minor, beneficial impact on habitat for the Wawona riffle beetle and harlequin duck due to the restoration of free-flowing conditions and increase in swift water habitat. There would be a local, long-term, negligible to minor, beneficial impact on special-status bat species and California spotted owl due to the increased habitat associated with the bioengineered bank stabilization and revegetation. With the application of mitigation measures, negligible impacts on special-status species are expected during dam removal activities.

The bioengineered bank stabilization and revegetation would be designed to match upstream and downstream conditions. The revegetation would limit the introduction of weedy species, reduce the potential for erosion and sedimentation, and help stabilize channel shape and slopes. Tree species would add structural diversity to the floodplain, and eventually become a source of large, woody debris. Dam removal would result in “no net loss” of wetland functions or values. The re-establishment of the riparian corridor along this portion of the river would have a long-term, minor to moderate, beneficial effect on wetland and aquatic resources in the vicinity of Cascades Diversion Dam. Under Alternative 1, the No Action Alternative, Cascades Diversion Dam would remain and continue to adversely affect the integrity, connectivity, and size of wetlands in the immediate vicinity of the dam. Though actions proposed in Alternative 2 (preferred) would take place in wetlands, the actions would result in long-term beneficial impacts on wetlands.

Cumulative Impacts

Cumulative effects to wetland and aquatic resources discussed herein are based on analysis of past, present, and reasonably foreseeable future actions in the Merced River corridor in combination with potential effects of this alternative. The projects identified below include those projects that have the potential to affect local wetland patterns (i.e., within the river corridor) as well as regional wetland patterns related to the Merced River.

Wetland and riparian systems of the Merced River corridor have been substantially altered by development and visitor activities. These changes have negatively influenced the size, form, and function of wetlands and the plants, wildlife, and aquatic species that inhabit them. Implementation of the *Yosemite Valley Plan* is an example of an approved plan that could have adverse or beneficial effects on wetlands. Full implementation of the *Yosemite Valley Plan* would restore 141 acres of river-associated wetlands in Yosemite Valley – a long-term, major, beneficial effect. While some of the past, present, and future projects in the Merced River watershed could have short-term, construction-related, adverse impacts to wetland resources, overall the cumulative projects would increase the size, connectivity, and integrity of wetland resources within the watershed, resulting in a long-term, major, beneficial cumulative effect on wetland and aquatic resources. Past, present, and reasonably foreseeable future projects in combination with dam removal would have a net long-term, major, beneficial effect on wetland patterns within the Merced River corridor.

Conclusions

Removal of Cascades Diversion Dam would restore the free-flowing condition of the Merced River and return this portion of the river to a more natural state, thereby enhancing its biological integrity. Alternative 2 would result in a local, long-term, moderate, beneficial effect on wetland and aquatic resources. Past, present, and reasonably foreseeable future projects in combination with Alternative 2 would have a net long-term, major, beneficial effect on wetland patterns within the Merced River corridor.

Alternatives Considered

Alternatives considered in the Cascades Diversion Dam Removal Project Environmental Assessment (Chapter II, Alternatives) include the No Action Alternative, Complete Dam Removal, and Partial Dam Removal.

Alternative 1: No Action

Alternative 1, the No Action Alternative, would allow Cascades Diversion Dam to remain in its existing condition; maintenance or repair would occur only to protect human health and safety. Considered to be in unsatisfactory condition and classified as a high-hazard structure (USBR 1997), failure of the overflow portion of the dam is considered inevitable. An uncontrolled and sudden failure of the overflow portion of the structure would result in a release of impounded water and the deposition of concrete and timber debris, grouted rockfill, and impounded sediment along the downstream channel. Dam debris – concrete, timbers, and grouted rockfill – would litter the downstream channel of the Merced River. All or portions of the existing concrete abutment structures on both banks and the intake structure would likely remain following failure

of the overflow structure. Up to approximately 20,000 to 25,000 cubic yards of dam-related debris and sediment would wash downstream.

Alternative 2: Complete Dam Removal (Preferred)

Alternative 2 includes complete removal of the dam, the dam abutments, the intake structure, and the screenhouse, and restoration of the related river channel located beneath the dam site (see figure II-3 of Chapter II, Alternatives). Approximately 4,400 to 5,400 cubic yards of sediments (including rocks and boulders) in the area upstream of the dam would be excavated and repositioned to stabilize the river-right bank and decrease the potential for sediment erosion. Figure II-4, located in Chapter II, Alternatives, indicates the river profile at Cascades Diversion Dam before and after removal of the dam structure and sediments. Natural river processes would continue to transport the remaining sediments (up to a maximum range of approximately 9,600 to 15,600 cubic yards of sediment) from the impoundment area over time, allowing for a gradual re-establishment of the natural river channel and related riparian habitat. It is expected that the river would fully recover incrementally over time, as sediments are transported from the impoundment area. However, the rate of natural channel recovery and restoration would be monitored to determine if additional restoration actions were necessary. Following removal of the river-right abutment, intake structure, and screenhouse, the river-right bank would be stabilized using a bioengineered bank stabilization system to prevent erosion of the river-right bank. The objective of this alternative would be to restore the natural river character with a mixture and distribution of boulders, cobbles, gravels, sand, silt, soil, and vegetation similar to those found in adjacent riverbank segments.

Alternative 3: Partial Dam Removal

Alternative 3 includes complete removal of the dam, the river-left dam abutment, and the screenhouse on the river-right intake structure, and restoration of the related river channel located beneath the dam site (see figure II-3 of Chapter II, Alternatives). Under this alternative, the river-right dam abutment and intake structure would be retained for use as a river viewing platform. Approximately 4,400 to 5,400 cubic yards of sediments (including rocks and boulders) in the area upstream of the dam would be excavated and repositioned to stabilize the river-right bank and decrease the potential for sediment erosion. Figure II-4, located in Chapter II, Alternatives, indicates the river profile at Cascades Diversion Dam before and after removal of the dam structure and sediments. Natural river processes would continue to transport the remaining sediments (up to a maximum range of approximately 9,600 to 15,600 cubic yards of sediment) from the impoundment area over time, allowing for a gradual re-establishment of the natural river channel and related riparian habitat. It is expected that the river would fully recover incrementally over time, as sediments are transported from the impoundment area. However, the rate of natural channel recovery and restoration would be monitored to determine if additional restoration actions were necessary. Following removal of the dam and screenhouse, the river-right bank would be stabilized upstream and downstream of the intake structure using a bioengineered bank stabilization system to prevent erosion of the river-right bank. The objective of this alternative would be to restore the natural river character with a mixture and distribution of boulders, cobbles, gravels, sand, silt, soil, and vegetation similar to those found in adjacent riverbank segments.

Design or Modifications to Minimize Harm To Wetlands

Best Management Practices and Resource-Specific Mitigation Measures

Best management practices and resource-specific mitigation measures would be implemented, as appropriate, prior to, during, and/or after removal.

Best Management Practices During Dam Removal

The National Park Service (and its contractors) shall implement the following best management practices, as appropriate, prior to, during, and/or after dam removal. Specific tasks would include, but are not limited to, the following:

- Inspect the project to ensure that impacts stay within the parameters of the project and do not escalate beyond the scope of the environmental assessment, as well as to ensure that the project conforms with the U.S. Army Corps of Engineers Special Site Permit, Cascades Dam Removal (as amended), Merced River Cascades Restoration Report, the Central Valley Regional Water Quality Control Board Waiver of Waste Discharge Requirements and Water Quality Certification, Cascades Dam Removal, and other applicable permits or project conditions.
- Implement compliance monitoring to ensure the project remains within the parameters of National Environmental Policy Act and National Historic Preservation Act compliance documents, U.S. Army Corps of Engineers Section 404 permits, etc. Compliance monitoring would ensure adherence to mitigation measures and would include reporting protocols.
- Implement natural resource protection measures. Standard measures include demolition scheduling, biological monitoring, erosion and sediment control, use of fencing or other means to protect sensitive resources adjacent to the work area, and revegetation. The measures include specific monitoring by resource specialists as well as treatment and reporting procedures.
- Confine work areas within the river channel, such as workpads to support demolition equipment, to the smallest area necessary.
- Limit the amount of rock and sediment required for the river-right bank bioengineered bank stabilization to the minimum required to stabilize and protect the slope from erosion. Amount shall be determined in consultation with National Park Service resources management staff during final project design.
- Steam-clean heavy equipment prior to its entry into the park to prevent importation of non-native plant species, and repair all petroleum leaks prior to work near the Merced River. Tighten hydraulic hoses and ensure they are in good condition.
- To minimize the possibility of hazardous materials seeping into soil or water, check equipment frequently to identify and repair any leaks, as directed in the spill prevention and countermeasure plan. Standard measures include hazardous materials storage and handling procedures; spill containment, cleanup, and reporting procedures; and limitation of refueling and other hazardous activities to upland/nonsensitive sites. Provide an adequate hydrocarbon spill containment system (e.g., floatable absorption boom, absorption materials, etc.) on site, in case of unexpected spills in the project area. Ensure equipment allowed within the river channel is equipped with a hazardous spill containment kit. Ensure that personnel trained in the use of hazardous spill containment kits are on site at all times during dam removal activities.
- Store all construction equipment within the delineated work limits.

- Ensure an emergency notification program is in place. Standard measures include notification of utilities and emergency response units prior to demolition activities. Identify locations of existing utilities prior to removal activity to prevent damage to utilities, particularly the wastewater lines that pass under El Portal Road within the project area. The Underground Services Alert and National Park Service maintenance staff shall be informed 72 hours prior to any ground disturbance. Demolition shall not proceed until the process of locating existing utilities is completed (wastewater, electric, and telephone lines). An emergency response plan shall be required of the contractor for measures that will be taken during all high-water events during dam removal, such as evacuation of personnel, equipment, and materials from the river, etc.
- Avoid damage to natural surroundings in and around the work limits. Provide temporary barriers to protect existing trees, plants, and root zones, if necessary, as determined by vegetation management staff. Trees and other vegetation shall not be removed, injured, or destroyed without prior written approval. Ropes, cables, or fencing shall not be fastened to trees. All existing resource protection fencing (post and rope) shall be left in place and protected from heavy equipment.
- Remove all tools, equipment, barricades, signs, surplus materials, and rubbish from the project work limits upon project completion. Repair any asphalt surfaces that are damaged due to work on the project to original condition. Remove all debris from the project site, including all visible concrete, timber, and metal pieces. Grade disturbed areas and rake them smooth to eliminate tire tracks and tripping hazards.
- Locate, contain, and stabilize excavated and stored materials within the upland staging areas and prevent re-entry into the river.
- Use silt fences, sedimentation basins, etc. in work areas to reduce erosion, surface scouring, and discharge to water bodies, as defined in the erosion control plan prepared for this project.
- Delineate wetlands and apply protection measures during construction. Wetlands shall be delineated by qualified National Park Service staff or certified wetland specialists and clearly marked prior to work. Perform activities in a cautious manner to prevent damage caused by equipment, erosion, siltation, etc.

Resource-Specific Measures

Hydrology, Floodplains, and Water Quality

- Prepare an erosion control plan specifying measures to prevent erosion/sedimentation problems during project construction. Include a map of the project site delineating where erosion control measures will be applied. Include the following minimum criteria, as listed in the *Guidelines for Protection of Water Quality During Construction and Operation of Small Hydro Projects* (CVRWQCB 1983):
 - Construction equipment shall not be operated in flowing water, except as may be necessary to construct crossings or barriers.
 - Where working areas are adjacent to or encroach on live streams, barriers shall be constructed that are adequate to prevent the discharge of turbid water in excess of specified limits.
 - Material from construction work shall not be deposited where it could be eroded and carried to the stream by surface runoff or high stream flows.
 - All permanent roads shall be surfaced with materials sufficient to maintain a stable road surface.

- All disturbed soil and fill slopes shall be stabilized in an appropriate manner.
- Surface drainage facilities shall be designed to transport runoff in a nonerosive manner.
- Riparian vegetation shall be removed only when absolutely necessary.
- There shall be no discharge of petroleum products, cement washings, or other construction materials.
- Erosion control measures shall be in place prior to dam removal and in good repair by October 15 of each year.
- Stream diversion structures shall be designed to preclude accumulation of sediment. If this is not feasible, an operation plan shall be developed to prevent adverse downstream effects from sediment discharges.
- Erosion control measures shall be inspected daily during dam removal and monthly following removal, and repaired as required.
- Waters shall be free of changes in turbidity that cause a nuisance or adversely affect beneficial uses. Increases in turbidity attributable to controllable water quality factors shall not exceed the following limits, as described in *The Water Quality Control Plan* for the Central Valley Regional Water Quality Control Board (CVRWQCB 1998). In determining compliance with the limits below, appropriate averaging periods may be applied, provided that beneficial uses will be fully protected:
 - Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU.
 - Where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20%.
 - Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs.
 - Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10%.
- Implement stormwater management measures to reduce nonpoint-source pollution discharge. This could include measures such as oil/sediment containment or street sweeping.
- Remove hazardous waste materials generated during implementation of the project from the project site immediately.
- Dispose of volatile wastes and oils in approved containers for removal from the project site to avoid contamination of soils, drainages, and watercourses. Keep absorbent pads, booms, and other materials onsite during projects that use heavy equipment to contain oil, hydraulic fluid, solvents, and hazardous materials spills.

Vegetation

- Implement a noxious weed abatement program. Standard measures include, as appropriate, the following elements: ensure that vehicles and equipment arrive onsite free of mud or seed-bearing material, certify all seeds and straw material as weed-free, identify areas of noxious weeds before dam removal, treat noxious weeds or noxious weed topsoil prior to work (e.g., topsoil segregation and removal), and revegetate with appropriate native species.
- Cover exposed soil with a combination of locally acquired native duff and forest litter from adjacent riparian sites to provide immediate groundcover and facilitate natural revegetation.
- Implement the planting prescriptions prepared for this project.

- Develop and implement a monitoring plan to ensure successful revegetation, maintain plantings, and replace unsuccessful plantings.
- Use native or seed-free mulch to minimize surface erosion and introduction of non-native plants.
- Confine all construction operations to specified project work limits. Install temporary barriers to protect natural surroundings (including trees, plants, and root zones) from damage. Avoid fastening ropes, cables, or fences to trees.
- As much as possible, removed plants and materials (cuttings) shall be salvaged and stored on site for revegetation following dam removal.

Refer to the Cascades Diversion Dam Removal Project Environmental Assessment (Chapter II, Alternatives) for a complete list of best management practices and resource-specific mitigation measures applicable to the proposed action.

The proposed action has been designed to mitigate harmful effects to wetlands. After the dam is removed, the channel of the Merced River would naturally deepen and narrow and the floodplain of the Merced River in the immediate vicinity of the impoundment would be enlarged. Newly restored floodplain would be revegetated and stabilized consistent with the project's U.S. Army Corps of Engineers Special Site Permit. Refer to Chapter II, Alternatives, for additional detail. The Cascades Diversion Dam Removal Project does not include any elements that would require preparation of a subsequent statement of findings.

Site Restoration

The last phase of the project is site restoration. Once the dam and attendant structures are removed, the riverflow characteristics in the area are expected to change. The approach channel immediately upstream of the dam would undergo gradual degradation from increased flow velocities. The river is expected to cut a channel through the remaining impounded sediments, narrowing and deepening the river channel. The river would divide into a river-right and river-left channel around the existing island above the dam site. The decrease in riverbed elevation would necessitate the placement of bank slope protection on the river-right side of the channel (USBR 2001).

Exposed soil would be covered with a combination of locally acquired native duff and forest litter from adjacent riparian sites to provide immediate groundcover and facilitate natural revegetation of the site. On the river-right bank, a bioengineered slope protection system would be installed to protect the riverbank from erosion upstream and downstream of the removed dam, and at the belowgrade intake structure that would remain following dam removal (see figure II-3 of Chapter II, Alternatives). The bioengineered slope protection would be constructed of native vegetation and boulders and designed to match the natural conditions of upstream and downstream riverbanks to the extent possible (see figure II-5 of Chapter II, Alternatives).

The bioengineered bank stabilization system would be constructed using standard techniques, including brush layering incorporated into a boulder structure. Other materials could be incorporated, including logs and root wads. Boulders would not be grouted into place. Approximately 4,400 to 5,400 cubic yards of excavated sediment (including native river rocks/boulders) would be reconfigured on the river-right bank and incorporated into the bioengineered bank stabilization system. Sediments excavated during dam removal are expected

to generate enough rock and sediment to meet the needs of the river-right bank stabilization system. No imported rock fill or riprap would be used (USBR 2001). Equipment used to perform restoration activities could include excavators, bulldozers, loaders, cranes, dump trucks, pumps, and water trucks. Restoration would be consistent with the project's U.S. Army Corps of Engineers Special Site Permit (refer to Chapter VI, Consultation and Coordination).

The project area would be contoured and finished with sediments to facilitate both natural and assisted revegetation by native species growing in the site-specific conditions that characterize the Cascades Diversion Dam area. Appropriate planting prescriptions for revegetation have been developed, including appropriate plant species and their placement in relation to Merced River water levels. Species suitable to be planted adjacent to the water would include a variety of rush species (such as small-fruited bulrush, sedge, and beaked sedge), intermixed with willows (including sandbar willow, red willow, and arroyo willow). Other species planted in this area may include horsetail, dogbane, and goldenrod. Native grasses would be planted throughout the floodplain. Herbaceous species would be re-established through hand-application of locally acquired mulch from adjacent sites supporting these species and hand-application of seeds, minimizing the potential for introduction of non-native species. Species such as white alder seedlings would be planted within the bioengineered slope at the bankfull mark. Black cottonwood and bigleaf maple cuttings would be planted near the upper limits of the riparian zone to match adjacent riparian vegetation patterns.

The site would be monitored in July (when maximum biomass is present, and to ensure the correct identification of herbaceous species) for five years to determine the success of the revegetation. Based on monitoring results, additional planting or stabilization could be required, including mulching, seeding, and planting of seedlings and cuttings. Any non-native plant species would be removed as discovered. Successful revegetation would establish a self-sustaining cover of native species that stabilize soil, trap sediment, provide wildlife habitat, and fulfill other basic functions of riparian ecosystems. The natural regeneration of vegetation would be deemed successful if, after five years, the herbaceous species composition and cover is within 90% of the composition and cover of adjacent native riparian areas, and if the stem density of shrubs and trees is within 90% of natural stem densities of adjacent areas. In addition, river channel morphology and bank conditions would continue to be monitored. Water quality (turbidity) monitoring would continue.

Following revegetation and bank stabilization, all removal-related materials and equipment would be removed from the site. El Portal Road would be realigned to its former location, and the paved parking area would be returned to its pre-removal state.

Proposed Compensation

No off-site compensation is required. The proposed action is designed to restore natural fluvial processes and wetland characteristics of the Merced River and would result in a net increase of wetland extent, function, and value in the vicinity of the impoundment. Free flow and natural sediment transport would be restored.

Justification

Nonwetland Alternatives to the Proposed Action

Cascades Diversion Dam is located within the bed and banks of the Merced River, within both the 2.33- and the 100-year floodplains, and within riverine and palustrine forest habitat of the Merced River. The purpose of the Cascades Diversion Dam Removal Project is to comply with the spirit of the Wild and Scenic Rivers Act and the intent of the Merced River Plan – to protect and enhance Outstandingly Remarkable Values and restore free-flow conditions to the Merced River. There are no alternatives to the proposed action that could be located outside the floodplain or wetland and aquatic habitat of the Merced River.

New Development

No new development is proposed by the Cascades Diversion Dam Removal Project. No new facilities would be located within wetland or deepwater habitats.

Existing Development

The proposed action includes complete removal of all man-made structures that currently exist within the bed and banks of the Merced River – below ordinary high water and within the 2.33- and 100-year floodplain. It includes removal of the dam, the dam abutments, the intake structure, and the screenhouse, and restoration of the related river channel located beneath the dam site.

Redevelopment

No redevelopment is proposed by the Cascades Diversion Dam Removal Project.

Conclusion

The proposed action would substantially reduce potentially hazardous conditions associated with flooding by removing facilities from the bed and banks of the Merced River and its floodplain. The dam, the dam abutments, the intake structure, and the screenhouse would be removed, and the related river channel located beneath the dam site would be restored.

The proposed action would have a beneficial impact on the extent, function, and value of wetlands by enhancing free-flowing conditions of the Merced River at this location, increasing available floodplain in this narrowly constricted portion of the river, and linking river-associated riparian vegetation that has been degraded and fragmented with a restored Merced River. The National Park Service has determined that there is no practicable alternative that could be located outside the floodplain or wetland habitat. Mitigation and compliance with regulations and policies to prevent impacts to water quality, wetland function and values, and loss of property or human life would be strictly adhered to during and after removal.

Individual permits with other federal and cooperating state and local agencies will be obtained or updated as appropriate prior to removal activities. No long-term adverse impacts to wetlands would occur from the proposed action. Therefore, the National Park Service finds the proposed action to be acceptable under Executive Order 11990 for the protection of wetlands.

Recommended:

Superintendent, Yosemite National Park

Date

Certification of Technical Adequacy and Servicewide Consistency:

Chief Water Resources Division
or Professional Wetland Scientist, National Park Service

Date

Approved:

Regional Director Pacific West Region, National Park Service

Date